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IN THE

Supreme Court of the United States

OCTOBER TERM, 1942

No. 71

UNITED CARBON COMPANY AND UNITED CARBON COMPANY, INC., *Petitioners,*

v.

BINNEY & SMITH COMPANY, *Respondent.*

RESPONDENT'S REPLY BRIEF.

DEAN S. EDMONDS,
Attorney for Respondent.

WILLIAM H. DAVIS,
ROGER T. McLEAN,
W. PETERS BLANC,
Of Counsel.

PRESS OF BYRON S. ADAMS, WASHINGTON, D. C.

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REPLY TO PETITIONERS' REPLY BRIEF.

Since many of the propositions advanced in petitioners' reply brief are likewise advanced in the *amicus* brief of Godfrey L. Cabot, Inc., we present our answer to the common subject matter in this section of our reply brief.

Petitioners' reply brief opens with the statement that it is petitioners' interpretation of respondent's brief that the claims in issue cover any carbon black aggregates that are (1) substantially pure; (2) hard enough to handle; (3) soft enough to disperse freely in the rubber mix; and (4) flowable (Pet. Reply Br. p. 1). We were at pains to point out in our main brief that all of these items save the first are mere statements of the performance or results obtained by

the aggregate patented to Wiegand and Venuto and that the claims in suit are restricted to the physical characteristics of the patented aggregate, *i. e.*, its substantial purity, round shape, smooth surface, and porous interior, which constitute the specific identifiable *means* whereby this performance is obtained (Res. Main Br. pp. 24-29, 51-52). It is this particular combination of characteristics which distinguishes the product from everything that went before and which must appear in any carbon aggregate in order to infringe the monopoly of the patentees. In contradiction of petitioners' assertion (Pet. Reply Br. p. 2), we wish to make it clear that this interpretation of the claims applies with respect to both validity and infringement.* When the performance recited by petitioners is obtained by any other means the claims are not infringed.

Petitioners' refusal to accept the clear statement of position contained in our main brief is ostensibly based upon certain passages from the testimony of one of respondent's witnesses, Mr. Kitchel. The testimony referred to (Pet. Reply Br. p. 1, 9-10) obviously relates simply to the commercial performance of the Wiegand and Venuto aggregate and does not constitute an interpretation of the claims of the patent in suit. But even had it represented an attempt by Mr. Kitchel to interpret the claims, it would have been no more than the common occurrence of a layman confusing the results of an invention with the means whereby those results are obtained. Such a legal error of a lay witness is not controlling and affords no basis for the erroneous contention of petitioners' counsel.

We believe that petitioners' true motivation in ignoring the explicit statement of respondent's brief is simply that no prior art patent discloses a product having the material characteristics stated in the claims in suit, and that it is only

* The requirements of commercial uniformity and small size which appear in the claims are satisfied by petitioners' product as appears *infra* p. 15. We do not mention them here as we conceive of them as mere identifying limitations which do not contribute to the patentability of the product.

the objectives or results sought by the prior art and first attained by the patented product which received comment in the prior patents.

The Prior Art.

As is stated in *Cohn* v. *United States Corset Co.*, 93 U. S. 366, 377, relied on by both petitioners and the *amicus* (Pet. Reply Br. p. 13; Am. Br. p. 10), to anticipate a manufacture such as the product here in suit, the important inquiry is "whether the prior publication described the article". We pointed out in our main brief that the prior patent to Geer failed to describe even a single one of the material characteristics of the patented product (Res. Main Br. pp. 31-33). To this petitioners have made no answer. The attributes of the *product* disclosed in the Geer patent are literally not mentioned in petitioners' reply.

We also pointed out in our main brief that the Knowlton and Hoffman binder product discloses none of the material characteristics of the patented product and that the non-binder product discloses only one of these characteristics, *i. e.*, substantial purity or freedom from binders. Petitioners have made no attempt to point out a disclosure of round form, smooth surface, or porous interior in the Knowlton and Hoffman patent. Instead they assert boldly that the Knowlton and Hoffman product "has all the properties asserted for the product of the claims in suit" and then list purity and the three functions or performance features already referred to, flowability, sufficient hardness to withstand handling, and the ability to disperse freely in the rubber mix (Pet. Reply Br. p. 11. See also pp. 5, 8, 10, 22, 23). In point of fact it is the uncontradicted evidence that carbon black products of the type described by Knowlton and Hoffman cannot flow without regenerating dust (R. 19, 49, 216), break up during handling thereby restoring the dust problem (R. 214-216), and in the course of evaporation contract, forming hard clumps of particles throughout the product and creating a harshness which prevents thor-

ough dispersion in the rubber mix (R. 214, 218-219 and 238, 1/26-52). It is submitted that even had the Knowlton and Hoffman patent stated that the product there described possesses all these capacities, whereas the fact is that neither flowability nor the capacity to withstand handling is mentioned, the patent would still fail as a disclosure of the particular physical characteristics which are the means employed in the Wiegand and Venuto aggregate to obtain these results.

In tacit admission that neither Geer nor Knowlton and Hoffman satisfies the rule of description announced in *Cohn* v. *Corset Co., supra*, petitioners make every effort to find in the disclosures of Geer and of Knowlton and Hoffman mention of a process which if practiced would have produced the patented product. In this effort they follow the procedure of selecting from Geer the step of mixing the black with a relatively small quantity of water and from Knowlton and Hoffman the step of drying the grains or lumps created in the course of the mixing. Realizing that the patented product could not be produced in this manner, to these two steps they add a third step of subjecting the material to the violent impact agitation of the patent in suit. By this procedure they arrive at the ultimate position which they now openly assert that back in 1918 Geer and Knowlton & Hoffman disclosed to the world the Glaxner single-liquid pelletizing process which was in fact discovered and patented some twelve to fifteen years after these prior patents were granted and some five years after the patent in suit was applied for by a man who was intimately familiar with the Wiegand and Venuto invention and the commercial operations in utilizing it (Pet. Reply Br. pp. 10, 11, 14, 15, 16, 23).

We submit that this procedure is absolutely unacceptable because such an amalgamation of elements is in direct conflict with the express terms of these two patents.

In the first place the suggestion of drying the low water-content material of Geer violates Geer's basic idea of utiliz-

ing the presence of water to prevent dusting and adding the material to the rubber mix while still in the wet state (R. 289, 1/36-57). Geer was justified in this insistence since the small quantity of water which he used, when simply mixed with the black as he instructed, is ineffective to hold down the dust unless left in (R. 202). If allowed to evaporate, the material will simply return to its powder state (R. 214).

In the second place, the suggestion of employing Geer's low water-content in Knowlton and Hoffman's evaporation process is in conflict with both the basic idea and the express terms of the Knowlton and Hoffman patent. That patent is specifically stated to be an improvement over Geer (R. 287, 1/60-63). The distinctive improvement lies in evaporating the water out of the black before the black is mixed with the rubber where Geer's proposal required that the water remain in the black. For Knowlton and Hoffman to employ their distinctive improvement, they *had* to make the proportion of water considerably greater than that proposed by Geer for it is the uncontradicted evidence that the larger proportion of water is necessary in order to have the evaporation process produce an agglomerated product (R. 214). As to the express statements of Knowlton and Hoffman, their patent directs one to prepare a "paste or syrup" by mixing water and carbon black (R. 287, 1/53-55). It is plain that the amount of water contemplated by Knowlton and Hoffman as creating a "paste or syrup" is not the same as that contemplated by Geer as rendering the carbon black "dustless but yet not pasty" (Pet. Reply Br. p. 11; R. 289, 1/28-29). Moreover, the numerical proportions specified by Knowlton and Hoffman are 1000 parts of hot water to 240 parts of lampblack, *i. e.*, 417 per cent of water on the black (R. 287, 1/48-50; 214). This is the only example of water-content given in the patent. Geer's instruction was to use only 50 per cent of liquid on the black (R. 289, 1/30-32).

In the third place there is no disclosure of the violent shaking, rotating, or tumbling impact agitation of the pat-

ent in suit in either Geer or Knowlton & Hoffman. The word "agitation" does not appear in either patent. Both patents call for "mixing" or "wetting" and nothing more (R. 287, 1/38, 1/51, 1/72, 1/78, 1/85, 1/92, 1/97, 2/4; 289, 1/18, 1/30, 1/34, 1/61, 1/71, 1/78). The object of both patents was simply to wet the black with water, in the one case to hold down the particles by its physical presence, in the other to create a permanent knitting of the particles in the course of evaporation. Agitation was neither required nor desirable for either purpose.

Petitioners assume to find a disclosure of violent agitation in Geer's suggestion of mixing in a closed vessel containing rapidly revolving paddles (Pet. Reply Br. pp. 16 and 23). It is apparent that such a device may be used either for the purposes of mixing or of agitating with violent impacts depending on how rapidly the paddles are revolved, the length of time the machine is operated, and the relative sizes of the paddles and the vessel (R. 176-77). In this respect the action of the machine depends entirely on the intent of the operator. Geer declared his objective to be "mixing" or "wetting" and Knowlton and Hoffman followed suit. But mixing or wetting or stirring do not constitute the violent impact agitation of the patent in suit and will not produce the pellets of the patent in suit (R. 195, 222). We submit that the Geer and the Knowlton & Hoffman patents, whether taken singly or together, fail to disclose either the product of the claims in suit or any process from which the existence of such a product can be deduced.

In connection with the Geer and Knowlton & Hoffman patents, there is a point to which we solicit special attention. Both the petitioners and the *amicus* now openly assert that in 1918, Geer and Knowlton & Hoffman had disclosed not only a product which had all the characteristics of the product of the patent in suit, but a process of making that product as well, *i. e.*, the Glaxner single-liquid process (Pet. Reply Br. pp. 14, 16; Am. Br. p. 12). Petitioners earlier asserted in their main brief that Geer disclosed the product,

and though at one point they suggested that the art still had to discover how to make pellets cheaply enough to compete with carbon black in powder form (Pet. Main Br. p. 11), elsewhere they stated positively that the method which they practise today at the Sayre plant, and which they have found to be sufficiently cheap to compete with carbon black in powder form, is "exactly what Geer described" (Pet. Main Br. p. 32). Now if all this is true, if both the product and a process whereby that product could be commercially produced were known to the art in 1918, how is it that for the next twelve years the industry generally, and the Goodrich Rubber Company which owned these patents in particular, labored on in the old defective and uneconomic way, spending millions of dollars to segregate the dust nuisance and condemning the rubber workers to abominable and unhealthy working conditions? To this question neither *amicus* nor petitioners vouchsafe an answer. We submit that there is no answer consistent with the position they assume, and that the natural inference raised by these facts is that neither the product of the patent in suit, nor any process which would produce it, was known to the art prior to 1927 and that the conception of such a product and of such a process was well beyond the reach of any ordinary mechanic acquainted with the business. (*Carnegie Steel Co.* v. *Cambria Iron Co.*, 185 U. S. 403, 420-21; *Paramount Publix Corp.* v. *American Tri-Ergon Corp.*, 294 U. S. 464, 474).

Petitioners assert once again that all of the attributes of the product of the patent in suit are disclosed in the product of Coffin and Keen (Pet. Reply Br. p. 12). In our main brief we pointed out that the Coffin and Keen patent went no further than a showing of aggregates of clay and analogous materials which have a round form and a smooth surface and that the patent contains no disclosure of a pellet formed purely of carbon particles nor yet any disclosure of a pellet of any kind having a porous or spongy interior. We further pointed out that this lack of disclosure of two of the essential physical characteristics of the Wiegand and

Venuto product could not be complemented by deductions to be drawn from the process disclosed in the Coffin and Keen patent; that there was no evidence that the properties of clay were similar to the properties of carbon black; and that the amount of water used by Coffin and Keen would inevitably create a mud cake aggregate having all the defects of the Knowlton and Hoffman product (Res. Main Br. pp. 41-50). Petitioners have made no attempt to answer the issues raised by respondent other than the blanket statement referred to above. We submit that this is a tacit admission of inability to bridge the gulf that separates the Coffin and Keen product from the product of the patent in suit.

The Material Characteristics of the Patented Product.

Unable to establish that the round, smooth, porous aggregate composed purely of carbon particles as defined in the claims in suit is lacking in novelty, petitioners have sought to minimize the importance of certain of the physical characteristics described.

Thus they assert that it is stated in the patent specification that the shape of the product "is not important" (Pet. Reply Br. p. 4). In point of fact the statement of the patent is (R. 228, 1/95-98):

> "While the pellet form is a very convenient form of the carbon black, the shape of the particles is not *the most important* characteristic of the novel carbon black" (Emphasis ours).

This statement is exact. The shape is not the *most* important characteristic, and the patent discloses a desirable product in other forms (R. 228, 1/98-2/3; 3/78-96). But petitioners have found the pellet form to be the most desirable form of the product disclosed, have appropriated it to their own use, and in so doing have infringed claims 1 and 2 of the patent which are directed to the pellet product. The round shape of the pellet product gives the pellet form the

desirable function of flowability and constitutes a material element of the product claimed.

Petitioners also make an oblique attack on the characteristic porosity of the patented product. Thus, they refer to testimony of their expert that the porosity of the pellets does not influence the quality of the rubber (Pet. Reply Br. pp. 6-7). This, of course, is true in a sense but is entirely irrelevant. There are many other factors which porosity does not influence, but petitioners do not deny that the high degree of porosity of Wiegand and Venuto's pellet is in fact the prerequisite of dispersibility and constitutes the *means* whereby the aggregate is endowed with the capacity to break down and disperse thoroughly in the rubber mix.

Petitioners also refer to the testimony of Dr. Wiegand where he points out that he is unable to define in the abstract the borderline *degree* of porosity which will in all cases permit complete dispersion of the particles throughout the rubber and suggests that the practical test of trying it out is the surest indication that an effective degree of porosity has been reached (Pet. Reply Br. pp. 7-8). The fact of the matter is that carbon black is produced in a great variety of forms (R. 45, 52) so that it is impossible to assert exact and effective limits of porosity which will apply to every case. The practical engineer's test of trial and error is the best guide, and the need for such limited experimentation does not render a patent indefinite or functional (*Minerals Separation, Ltd.* v. *Hyde*, 242 U. S. 261, 270-71, and cases cited). But in any case, the patent in suit itself sets forth a working range of porosity which any mechanic can follow in order to obtain an operative product as we pointed out in our main brief (pp. 28-29), and petitioners deny neither the existence of this instruction in the patent nor the fact that their engineers have been able to follow it and produce a product having a degree of porosity squarely within that range.

Invention.

Neither petitioners nor the *amicus* make any direct answer to the facts pointed out in respondent's brief as indicating the presence of invention in the patent in suit. They do not deny the abominable conditions prevailing in the rubber mills, the existence of a growing demand for their alleviation throughout the period preceding the appearance of the patented product, nor the satisfaction of that demand by a product comprising an aggregate of substantially pure carbon black, round in form, smooth of surface, and having a spongy or porous interior.

Both parties, however, make an effort to minimize Weigand and Venuto's contribution to industry, insisting that the produce of the claims in suit was a commercial failure as manufactured by the two-liquid process and that commercial success of the product awaited the appearance of Billings and Offutt patent No. 2,120,541 which "revolutionized the industry and brought commercial success" (Am. Br. pp. 16, 19; Pet. Reply Br. pp. 14-21).

In this effort both parties lay great emphasis on the comparatively small sales of the patented product in the panic years 1929-1931 when respondent was manufacturing under the two-liquid process but nowhere comment on the positive evidence that except for cost of production there is no difference of any consequence between the product of the two-liquid process as practised by respondent during those three years and the product of the single-liquid process as practised by respondent from 1932 to the present time and the product of the single-liquid process as practised by petitioners from 1937 to the present (R. 20, 22, 42, 43, 49, 54, 59, 73, 187, 191-92, 199). The evidence is specific that the Glaxner single-liquid process "gave him pellets which were identical in their properties with the two-liquid ones" (R. 199). The combined sales of these pellets by respondents and petitioners up to 1940 is approximately 300,000,000 pounds (Res. Main Br. p. 57).

Some light is shed upon the contention of petitioners and the *amicus* that commercial success awaited the appearance of Billings and Offutt patent No. 2,120,541 when it is recognized that this patent is owned by the *amicus*. It is a touching evidence of the esteem in which they hold it that they still assert its revoluntionary power after the Court of Appeals for the Fifth Circuit has held that it must be narrowly construed as being for a subsidiary improvement (*Godfrey L. Cabot, Inc.* v. *J. M. Huber Corp.*, 127 F. (2d) 805 and 35 F. Supp. 373).

Be that as it may, we do not intend to decry the Billings dry process. As the *amicus* admits, it was based on "turbulent agitation" (Am. Br. p. 19) and in this respect owed much to Wiegand and Venuto who first disclosed that essential feature of carbon black aggregation. Billings and Offutt may have been the first to perceive that the Wiegand and Venuto agitation could be employed on perfectly dry carbon black to produce pellets, but the appearance of a successful product upon the market did not await that perception.

The Cabot dry process was not put into commercial use until 1933 (Am. Br. p. 20), not 1932 as stated by petitioners without reference to the record (Pet. Reply Br. p. 17). By the end of 1931 respondent had already made and sold 378,000 pounds of the patented pellets produced by the two-liquid process of the patent in suit and during 1932 it sold 281,000 pounds of that same product made by the Glaxner single-liquid process which it has used ever since and which was adopted in 1937 by the petitioners themselves (R. 32, 185.)*

The contention that the product of the two-liquid process was unsatisfactory is based on Mr. Billings' reference to samples of broken down carbon pellets taken from a ship-

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* Petitioners' Sayre process is substantially identical with the Glaxner process (compare the description of the Sayre process, R. 98-103, 113-15, with the disclosure of the Glaxner patent, R. 264-66).

ment in paper bags which he observed in 1932 (Pet. Reply Br. p. 19; Am. Br. pp. 17-18). We have discussed this evidence in our main brief (pp. 62-63). This isolated incident can hardly bear the weight of the deductions of commercial failure, excessively soft product, etc. made by both petitioners and the *amicus*.

Petitioners seek to buttress this deduction by repeated assertions that the patent in suit describes the product as "soft" (Pet. Reply Br. pp. 3, 18-19, 22). In point of fact the patent does not state that the aggregated product is soft, but simply asserts that the separate particles of carbon black of which it is composed retain "their original softness" (R. 228, 1/70-75, 1/90-94). The references to the product itself merely establish that it is easily crushed and will disperse readily in the rubber mix, capacities which necessarily exist in any commercial carbon black product.

Petitioners' effort to buttress their experts' *ex parte* experiment in which he produced soft pellets allegedly in accordance with the process described by Wiegand and Venuto lacks substance (Pet. Reply Br. pp. 19-20). The fact is that Dr. Drogin admitted that his experiment was a batch operation, that for batch operations the patent instructs violent shaking, rotating or tumbling, and that he did not follow these instructions (R. 174; 230, 3/14-16). In consequence Dr. Drogin obtained a product weighing less than 20 pounds per cubic foot although that is the lower limit of density indicated in the patent and although he knew that such a product was commercially unsatisfactory (R. 165 and 179). His product was not representative of the two-liquid product sold by respondent in the period 1929-1931 for it is the uncontradicted evidence that a sample of respondent's commercial two-liquid product made up in 1931 had a density of approximately 25 pounds per cubic foot, the same density that exists in petitioners' infringing Sayre product (R. 191). *Ex parte* experiments of the kind relied on by petitioners have always been criticized by the court as having little or no weight as evidence (*infra* p. 20).

The actual facts of respondent's commercial experience with the patented product are known and the inferences to be drawn from them are perfectly clear. Respondent put its new product manufactured by the two-liquid process on the market in the years of financial panic 1929-1931 (R. 32). The product was suspect, due to the many failures which had preceded it in the prior art (R. 31-32). Because of the expense of the two-liquid method, respondent charged a premium of one cent a pound (R. 32, 51) on a product which the *amicus* says sells for "under four cents, often under three cents" a pound (Am. Br. p. 16). Notwithstanding these formidable obstacles, respondent sold 378,000 pounds of the new product in those three panic years (R. 32). When the introduction of the cheaper Glaxner process permitted it to lower the price of the new product to the standard rates for loose carbon black, sales rapidly increased to the tremendous proportions now maintained. It was at this point that the Cabot Company joined the band-wagon—and at the same low price (R. 149). These facts establish the commercial success of the patented product in the face of serious obstacles and do not form a basis for a claim of commercial failure. The *amicus'* intimations of inferiority of the two-liquid product cannot counter the weight of the positive evidence in the record that the two-liquid product was identical in every respect with the single-liquid product currently sold by both petitioners and respondent (R. 20, 22, 42, 43, 49, 54, 59, 73, 187, 191-92, 199).

Petitioners suggest that the consumer-resistance to the purchase of agglomerated carbon black encountered by respondent in the panic years is evidence that the dust problem was not serious and that there was no insistent demand for carbon black in granular or pelleted form (Pet. Reply Br. pp. 17-18). Petitioners are correct in saying that there was no insistent demand for carbon black in aggregated form. Indeed, as we have pointed out, due to the complete failure of prior art carbon black aggregated products any form of aggregate was regarded with the deepest sus-

picion. But lack of demand for aggregated black and reluctance to believe it operative is a very different thing from a lack of demand for a solution of the dust problem. There is no doubt that that demand existed even though the art, embittered by past experience, failed to recognize at once that the patented product constituted that solution of the problem (Res. Main Br. pp. 4-10).

Infringement.

With regard to infringement both petitioners and the *amicus* assert that the accused pellets are not porous. Petitioners say they do "not have the porous interior called for by the claims in suit" (Reply Br. p. 22), and the *amicus* says they are "not pongy or porous" (Am. Br. p. 28). Petitioners cite in support of their assertion the testimony of their expert that the accused pellets have "rather a dense interior" (R. 140) and the *amicus* quotes the same witness's statement that the accused pellets are "decidedly free from much porosity" (Am. Br. p. 28-29). These statements betray a singular disassociation with reality. On the very next page of its brief *amicus* admits that the Sayre pellets weigh 25.4 pounds per cubic foot, and as we pointed out in our main brief (p. 28), this undeniably establishes that they are somewhat more than two-thirds air. If an aggregation of carbon particles so arranged as to leave air spaces which occupy more than two-thirds of the total displacement of the aggregate is not porous, or is "decidedly free from much porosity", then words have lost their meaning. In point of fact, petitioners' expert was ultimately forced to admit that the Sayre pellets contains voids imperceptible by microscopic examination and that two pellets of carbon black of approximately the same size and having a weight of 25 pounds per cubic foot both have the same total porosity (R. 172, 173). We have pointed out in our main brief (p. 28) that pellets weighing 25 pounds per cubic foot fall precisely within the density range recommended in the patent in suit.

Both petitioners and the *amicus* also insist that the Sayre process produces pellets varying widely in size and that consequently the product is not "commercially uniform" within claim 1 of the patent in suit (Pet. Reply Br. p. 22; Am. Br. p. 30). Petitioners admit, however, that the Sayre product, in whatever state it may be initially produced, is screened down before it is sold in order to obtain the desirable commercial sizes (Pet. Reply Br. p. 22). This satisfies the requirement of commercial uniformity, for the sale of a commercially uniform product is as much an infringement of the patent as its manufacture (*Robinson on Patents*, Vol. III, Sec. 905).

Both parties also make a point of purity. There is, of course, no binder in the Sayre product and that is the purity with which the claims are concerned. But both petitioners and the *amicus* point out (Pet. Reply Br. p. 22; Am. Br. p. 31-2) that no effort is made at the Sayre plant to remove impurities such as grit from the black as it comes from the burning house. That may be so, but the fact remains that the Sayre pellets are substantially pure even in this respect, satisfying the rigid specifications prescribed by the rubber industry (R. 166-8). Substantial purity is all that is required to satisfy the claims, and that degree of purity, petitioners' product has, however little effort is made at the Sayre plant to attain it. Petitioners have apparently learned how to prepare the original loose black free from impurities for they employ a "micro-pulverizer" to collect the impurities and find that it collects little or nothing (R. 121-2).

REPLY TO BRIEF OF AMICUS CURIAE.

The *amicus* brief presented by Godfrey L. Cabot, Inc. adds comparatively little to the briefs of petitioners in this case. However, it presents certain erroneous conceptions and includes a large number of factual statements which are unsupported by record references and are directly contrary to the evidence in the case. A brief reply appears to be desirable to guard against misapprehension.

The Prior Art.

The *amicus'* treatment of the prior art contains certain mistatements which should be noted.

It is categorically stated that Geer used no binder (Am. Br. p. 11). That is not true, for Geer mixed water or kerosene with the carbon black and left it there to hold down the dust by binding the particles together and the material was put into the rubber mill in its wet state (R. 289, 1/36-46, 1/53-57). It was the ill effect on the rubber consequent upon the presence of this binding moisture that rendered his product unusable (R. 202-3, 226).

It is also stated that the Knowlton and Hoffman product was friable in a degree "permitting uniform distribution" (Am. Br. p. 12). No reference is made to the record and indeed no reference could be made since it is the uncontradicted testimony that the material produced by the Knowlton and Hoffman evaporation process was harsh and lumpy, and would not disperse freely in the rubber mix (R. 214-16, 218-19).

It is stated of both the Geer and the Knowlton and Hoffman products that they displayed the qualities of the product described in claim 1 of the patent in suit (Am. Br. p. 12). That claim calls for an aggregate of substantially pure carbon black, rounded, smooth, and having a spongy or porous interior. Geer fails to describe a single feature of the patented pellet. His product contains a foreign material, water or kerosene, and consequently is impure, and there is no word in the entire patent of roundness, of

smoothness, or of porosity. Knowlton and Hoffman, though apparently free from impurities in one aspect, make no disclosure of round shape, smooth surface, or porous interior. These patents do not satisfy the test of *Cohn* v. *Corset Co.* They do not "describe the article." They speak only of "grains", "granular condition", "lumps", "mass", and "granular or lumpy condition." None of these expressions pictures even the round shape or smooth surface of the patented product, and of course, none of them contains any intimation of porosity. It is inconceivable that either Geer or Knowlton & Hoffman would have failed to assert these striking physical characteristics in their descriptions of their products if they had in fact produced a product that had them. The claims in suit, specifically limited by these characteristics, do not read upon the grains or lumps produced by these prior patentees.

But the *amicus* refers to samples of products ostensibly made up in accordance with the processes disclosed by Geer and by Knowlton and Hoffman (Am. Br, pp. 11, 12). Any resemblance that these samples may bear to respondent's product is not surprising since in all instances they were made, not by processes disclosed by Geer and Knowlton and Hoffman, but by processes approximating that developed by Glaxner in 1932 and commercially employed by respondent ever since.

The alleged Geer product, defendant's Exhibit No. 27, was made by petitioners' expert in *ex parte* experiments in which a mixture of two parts of black and one part of kerosene was violently agitated in a Daisy churn *for thirty minutes*, the churn being driven by a power-operated machine at a speed of *755 revolutions per minute*. The resulting product was then dried to drive off the kerosene in direct contradiction of Geer's instruction to add the material to the rubber in the wet state (R. 156-58, 182). The prolonged and violent impact agitation employed by petitioners' expert in this experiment was not disclosed by Geer whose patent does not mention agitation and who sought

merely to *mix* the black with water. This violent impact agitation was first disclosed as applicable to carbon black in the patent in suit and was subsequently discovered by Glaxner to be appropriate to a process employing water alone when the ratio of water to carbon black and the amount and violence of the impact agitation are properly selected and correlated (R. 199, 264-66).

The alleged Knowlton and Hoffman product, defendant's Exhibits 29, 30, 31, 33 and 4, were likewise made up by petitioners' expert in *ex parte* experiments. In producing Exhibits Nos. 29, 30 and 31, only 1½ parts of water to 1 part of black were employed although Knowlton and Hoffman instructed the use of more than 4 parts of water to 1 part of black (R. 159, 161). In Exhibit 29, the material was agitated in a Daisy churn driven by power at 755 revolutions per minute for seven minutes; in Exhibit 30 the material was agitated in the power-driven churn at 755 revolutions per minute for thirty minutes; and in Exhibit 31 the material was agitated in the power-driven churn at 168 revolutions per minute for one hour (R. 159-161). The Knowlton and Hoffman patent, like Geer, is directed merely to *mixing* the black and water and contains no mention of violent agitation.

In Exhibit No. 33, only one part of water was used to one part of black, and the material was agitated for twenty-five minutes at 355 revolutions per minute in a Tamms paint mixer driven by a quarter horse power motor to give it a "vigorous rotary motion" whereby the contents of the receptacle received "a thorough shaking" (R. 161-62). And in Exhibit No. 4, in which three parts of water were used, the material was agitated in a pin drum which was rolled for ten minutes at 58 revolutions per minute (R. 162-63, 181). Knowlton and Hoffman do not mention shaking or rotating; Wiegand and Venuto specifically call for this type of agitation and the apparatus of the Glaxner patent is designed to give just such an action (R. 230, 3/127-129; 264-66).

The obvious departure from the Geer and Knowlton and Hoffman disclosures demonstrated in these experiments deprives them of any evidentiary value.

In discussing the Trent British patents, the *amicus* brief makes little reference to the product therein specifically disclosed (Am. Br. pp. 12-13). This is natural enough since the product is described as a mass of coal particles stuck together with heavy fuel oil or "oil residuums which are solid at ordinary temperatures" (R. 292, 3/101-105; 431, 1/33-38). The oil envelops and surrounds the particles of coal, sufficient oil being used "to fill up the spaces between the coal particles in the globular aggregate . . ." (R. 292, 3/48-59; 293, 4/29-32). The agglomerates are "greasy", have a "dense plastic consistency", and are heavy and "free from air bubbles" (R. 290, 1/36-39; 291, 2/85-90; 431, 1/24-30, 1/75-80; 455, 4/1-3). If the oily binding agent is removed, the aggregates return to their particle state and can be used as "a powdered fuel" (R. 434, 4/21-24; R. 204-205). The only characteristic of the Trent agglomerate as described in the patents which presents any resemblance to the Wiegand and Venuto product is its roundness, and the round form of the Trent agglomerate is no more relevant to this suit than the roundness of billiard balls or children's marbles.

The *amicus* lays emphasis, however, on the process steps disclosed by Trent, finding a superficial similarity therein to the Wiegand and Venuto procedure. Since Trent discloses plainly that the product produced by his process has no similarity to the product produced by the Wiegand and Venuto process, it is submitted that this suggestion is irrelevant.

In the face of the statement in the Trent patent that sufficient oil is used "to fill up the spaces between the coal particles in the globular aggregate" (R. 293, 4/29-32), the *amicus* asserts that spongy or porous pellets have been produced by the Trent process (Am. Br. p. 13). No word of evidence to this effect appears in the record. The *amicus* refers to a sample of a product made up by petitioners' expert and introduced into evidence as defendant's Exhibit No. 35 (R. 163-65). It was not alleged at the time that this

product had any degree of porosity, much less the porosity of the patented product, and the contention is now first raised, without evidence to support it, before the court of last resort. Aside from this lack of evidence, this experiment is as meretricious as all the other *ex parte* experiments performed by petitioners' expert. In this instance, although Trent patent 183,430 calls for the addition of water to pulverized coal in amounts at least sufficient to float the particles in a state of free suspension (R. 290, 1/18; 2/2-4; 2/11; 292, 3/106-109), the expert added to pure ground coal only sufficient water to get the coal "thoroughly wet" (R. 163-64). Although the patent calls for one part of oil to two parts by weight of the "carbonaceous content" of the coal (R. 292, 3/99-106), the expert added 770 parts of oil to 550 parts of coal, *i. e.,* two and four-tenths parts of oil to two parts of coal (R. 164). And finally, in flagrant violation of the patent which calls for heavy fuel oil (R. 292, 3/102-103), and, by reference to patent 151,236 for "tars, pitch and oil residuums which are solid at ordinary temperatures" (R. 292, 1/51-56; 431, 1/33-38), the expert used one of the lightest and most volatile oils known, kerosene (R. 164). The product, of course, was dried to remove the oil, although Trent pointed out that removal of the oil reduced his agglomerates to powder (R. 434, 4/21-24; R. 204-205).

Ex parte experiments performed by expert witnesses in patent cases have repeatedly been held to have little or no evidentiary value (*Carnegie Steel Co.* v. *Cambria Iron Co.,* 185 U. S. 403, 420-1; *Bemis et al.* v. *Charles A. Stevens & Bros.,* 177 Fed. 717, 721, C.C.N.D. Ill. E.D.; *Kuehmsted* v. *Farbenfabriken of Elberfeld Co.,* 179 Fed. 701, 707, C.C.A. 7; *Chadeloid Chemical Co.* v. *Wilson Remover Co.,* 220 Fed. 681, 682, D.C.S.D.N.Y.; *Permutit Co.* v. *Harvey Laundry Co. et al.,* 274 Fed. 937, 945, D.C.W.D.N.Y.; *Carson* v. *American Smelting & Refining Co.,* 4 F. (2d) 463, 465, C.C.A. 9; *Donner* v. *Walgreen Co. et al.,* 44 F. (2d) 637, 642, D.C.N.D. Ill. E.D.; *Steinfur Patents Corporation* v. *J. Meyerson, Inc.,* 56 F. (2d) 372, 379, D.C.E.D.N.Y.).

The comment of the *amicus* on the Coffin and Keen patent has a ludicrous aspect. In that patent the globules of wet clay are dried as they fall through the heated atmosphere of the drying chamber, depositing on the floor of the chamber as dried clay (R. 297, 1/63-66, 2/86-92). The patent states that the air is heated to "500° to 700°F." (R. 298, 2/80-81). The evidence is that if wetted carbon black were subjected to such high temperatures it would surely burn and might even explode (R. 213). Petitioners made no comment in their brief on that important item, presumably because the fact could not be avoided. The *amicus*, however, appears to have felt that the failure to take any note of that important item betrayed a weakness in petitioners' case. So the *amicus* stepped into the breach with the statement that when applying the Coffin and Keen drying procedure to carbon black the temperature of the chamber would be reduced (Am. Br., p. 14) and it suggested a reduction to 257° F., supporting that suggestion with a reference to the record at a point where a witness described drying certain carbon black at 125° Centigrade (257°F.) .The drying operation there described is specifically stated to have extended over a period of *twenty hours*. (R. 127*.) This fact the *amicus* ignored. Having suggested that the temperature be lowered to 257° F., it did not develop its suggestion and explain how the carbon black falling by gravity through the drying chamber of Coffin and Keen could be made to fall for a period of twenty hours. Presumably the chamber would be increased in height for that purpose, but as the height would have to be many miles, the *amicus* said nothing about that. Perhaps the petitioners' decision to ignore the matter in its entirety was, after all, the wiser one.

The *amicus* follows its discussion of the prior patents with a summary of the prior art (Am. Br., p. 15) in which it states that both "Agitation with violence either by ro-

* The record reference given by the *amicus* is R. 139, but all the record references in the *amicus* brief apply to the record before the Court on the petition for certiorari and do not apply to the present record.

tating, shaking or tumbling" and "Spongy porous aggregates" are described in the prior art. No record evidence is cited. In fact, no evidence exists in support of either statement. The prior art does not disclose agitation of wetted carbon black by rotating, shaking or tumbling; it does not disclose violent agitation of any kind applied to carbon black. And even more important, not one word of testimony appears in the entire record to support the assertion that any prior art aggregate had the porous interior of the patented product. No one of the prior art patents relied on by petitioners discloses that essential characteristic which permits dispersion of the patented aggregate in the rubber mix, and although petitioners' principal witness made every effort to distinguish between the accused product and the product of the patent in suit by reference to the porosity characteristic, at no time did he suggest that any prior patent discloses an aggregate having a porous or spongy interior. This total lack of evidence cannot be cured by asertions of counsel in the court of last resort.

Invention.

We have discussed the main contentions of the *amicus* in this connection in the first section of this brief. Like petitioners, the *amicus* makes no direct answer to the facts pointed out in respondent's brief as indicating the presence of invention in the patent in suit. Instead, seeking to minimize the industrial importance of the patent, it repeatedly asserts that Wiegand and Venuto invented no more than a process of producing an old form of product and that the claims in suit were drawn in the effort to monopolize that old form even when made by a different process. (Am. Br. pp. 2, 3, 9, 36). If this were true, the claims in suit would be invalid of course. But this assertion begs the question entirely since we are here occupied in investigating whether in fact the product was novel, and if novel, whether that novelty was the product of invention. The mere assertion that the product was old and only the process patentable advances the inquiry not at all, and if the product is new

and constitutes an independent invention, then the fact that petitioners' infringing product is produced by a different process is entirely irrelevent. (*Merrill* v. *Yeomans*, 94 U. S. 568, 571; *Robinson on Patents*, Vol. III, Sec. 927).

The *amicus* also seeks to minimize the patent by asserting, that one of the most important characteristics of the product, its highly porous interior, is of no consequence (Am. Br. pp. 6-7). No evidence whatever is cited in support of this statement. The evidence is clear and uncontradicted that the porous interior of the pellet is the "prerequisite" to proper dissemination in the rubber mix (R. 83), and it is not denied that incomplete dispersion was the very fault that caused the failure of the prior art evaporation products (R. 214-16; 218-19). For the *amicus* to take the position that this porosity is negligible is, moreover, a complete reversal of position, for throughout the case petitioners have sought to distinguish their own product from the patented aggregate on the basis of some difference in porosity and even presently persist in this. Both the District Court and the Court of Appeals found the porous interior to be an essential element of the patented product; it was the subject of lengthy testimony at the trial; and the evidence establishes it as the specific physical characteristic which gives the aggregate the dispersibility which the prior art products lacked. It is submitted that the assertion of *amicus* is advanced in evasion of the fact that petitioners were unable to produce at the trial evidence that this feature was present in any product of the prior art.

Infringement.

The important aspects of the *amicus'* discussion of infringement have been referred to in the first section of this brief.

The further discussion of this issue in the *amicus* brief (Am. Br. pp. 29-30) is based on a comparison by petitioners' expert of the accused pellets with pellets made by him allegedly in accordance with the process of the patent in suit.

That these *ex parte* pellets were not made in accordance with the patent in suit we have already pointed out (*supra*, p. 12; Res. Main Br. pp. 61-62). Instead, they were made in a form which that expert said "is not quite suitable for commercial use or for commerce", (R. 165) and is "not a desirable product in view of the greater amount of dust caused by the breaking down of the pellets in transit and in handling" (R. 179). The patent in suit informs one specifically how to make the pellets "harder or softer", that is, more or less porous (R. 230, 3/23), and it also recommends a density represented by two times that of the black of commerce of that day, or about 25 pounds. Petitioners' expert could have followed these directions but he preferred to so conduct his operations as to produce an uncommercial product. The disingenuousness of this expert appears in his omission of adequate agitation when making aggregates for use in establishing non-infringement, while introducing such agitation whenever he was manufacturing aggregates to show anticipation and lack of invention. It is clear that a comparison of petitioners' product with this unrepresentative aggregate cannot serve to establish lack of infringement.

Conclusion.

It is submitted that petitioner and the *amicus curiae* have not met the affirmative evidence of novelty offered by respondent in this case, have fallen far short of carrying their heavy burden of proving lack of invention beyond a reasonable doubt, and have made no adequate answer to respondent's demonstration of infringement. Accordingly, we respectfully urge that the patent in suit should be held valid and infringed.

Respectfully submitted,

DEAN S. EDMONDS,
Attorney for Petitioners.

WILLIAM H. DAVIS,
ROGER T. MCLEAN,
W. PETERS BLANC,
Of Counsel.